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The Effects of Sleep Deprivation on Work Performance Amongst Night Shift Nurses

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Background

- The American Nursing Association addresses the challenges nurses face in reducing the risk of sleepiness associated with shift work and long work hours ([ANA], 2017).
- Limited research exists that distinguishes the effectiveness of interventions and coping mechanisms night shift nurses utilize to minimize sleep deprivation and facilitate optimal sleep hygiene (Johnson, Brown, & Weaver, 2010; Borbély, Daan, Wirz-Justice, & Deboer, 2016).

Purpose

The aim of this study is to identify sleep hygiene and coping mechanisms utilized by night shift nurses and to determine its association in relieving sleep deprivation.

Methodology

Design: descriptive cross-sectional study

Participants and Setting: 20 night shift nurses with at least 6 months of night shift and acute care experience

Procedures:

- validated and approved by IRBPHP IRB Application #10965
- snowball sampling

Materials: 3 component questionnaire via Google Form

- Sleep Questionnaire (Kim, H. J., Kim, J. H., Park, Choi, & Lee, 2011) (15 items)
- Sleep Hygiene Survey (5 items)
- Coping Strategies Survey (15 listed items)

Results

Years of Experience	
Years of Experience	Number of Nurses
6 Months - 11 Months	4
1 - 4 Years	15
> 13 Years	1

Years of Experience and Age	
Pearson Correlation = 0.731	

Sleep Quality Questionnaire Total Score	
Mean	Std. Deviation
33.95	6.18551

Sleep Hygiene Survey Total Score	
Mean	Std. Deviation
7.4	0.59824

Coping Strategies Ineffectiveness and Sleep Questionnaire Total Score	
Pearson Correlation = 0.613	

Data Analysis

- Sleep Quality Questionnaire total score can range from 15 to 64.
- Sleep Hygiene Questionnaire total score can range from 5 to 10.
- Likert Scale for Sleep Questionnaire and Sleep Hygiene Survey were scaled as the lowest number to be the most positive response. The higher the score, the worse the sleep quality.
- Sleep Quality Questionnaire was measured for reliability with Cronbach's alpha ($\alpha = .768$).
- A significant positive correlation was found between nurse's age range and their years of experience in an acute care setting ($r = .731, p = .000$).
- The correlation between the perceived sleep disturbance and low effectiveness of coping strategies was statistically significant ($r = .613, p = .004$).
- An inverse non-significant correlation was seen between the total Sleep Quality score and the categories of coping strategies utilized ($r = -.224, p = .343$).

Conclusion

- Important to identify interventions used by night shift nurses to reduce sleep deprivation and promote proper sleep hygiene to maintain a safe and productive work environment.
- Further research should evaluate the implementation of tailored interventions to help increase alertness and performance during these shifts to acquire tactics to manage sleepiness during night shift work.